PTO/SB/08A (07-05)

Approved for use through 07/31/2008. OMB 0851-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE ction Act of 1995, no persons are required to respond to a collection of Information unless it contains a valid OMB control number.

PTO

Complete if Known Substitute 1449/PTO

INFORMATION DISCLOSURE STATEMENT-BY APPLICANT

(Use as many sheets as necessary)

Complete if Known				
Application Number	10/705,572			
Filing Date	November 11, 2003			
First Named Inventor	Mitchell, et al.			
Art-Unit	1723			
Examiner Name	Yoon-Young Kim			
Attorney Docket Number	8681 RCR/0116 813			

Examiner	Cite	Document Number	Publication Date	T DOCUMENTS Name of Patentee or	Pages, Columns, Lines, Where
Initials*	Cite No.1	Number-Kind Code ^{2 (f known)}	MM-DD-YYYY	Applicant of Cited Document	Relevant Passages or Relevant Figures Appear
JK		US-5,521,008	05/28/1996	Lieberman et al.	/ iguico/ ppcu/
		US-6,827,854	12/07/2004	Mitchell et al.	
		US-6,241,893	06/05/2001	Levy	
		US-5,772,896	06/30/1998	Denkewicz et al.	
		US-4,396,512	08/02/1983	Beauman et al.	
		US-6,630,016	10/07/2003	Koslow, Evan E.	
		US-5,376,279	12/27/1994	Judd et al.	
		US-4,654,075	03/31/1987	Cipollini, Ned E.	
		US-5,527,451	06/18/1996	Hembree et al.	
		US-5,536,394	07/16/1996	Lund et al.	
		US-5,709,794	01/20/1998	Emmons et al.	
		US-5,882,507	03/16/1999	Tanner et al.	
		US-6,103,114	08/15/2000	Tanner et al.	
		US-4,969,996	11/13/1990	Hankammer	
		US-5,431,813	07/11/1995	Daniels	
		US-6,214,224	04/10/2001	Farley	
		US-5,957,034	09/28/1999	Sham et al.	
		US-6,145,670	11/14/2000	Risser	
		US-6,120,685	09/19/2000	Carlson et al.	
		US-6,241,899	06/05/2001	Ramos	
		US-5,834,114	11/10/1998	Economy et al.	
T		US-5,776,385	07/07/1998	Gadkaree et al.	
		US-5,487,917	01/30/1996	Gadkaree	
		US-5,702,498	12/30/1997	Huang	
		US-4,448,695	05/15/1984	Gordon, Jr. et al.	
		US-5,773,143	06/30/1998	Vermillion et al.	
		US-4,283,283	08/11/1981	Zimmerman	
		US-4,552,863	11/12/1985	Fujimori	
		US-3,950,267	04/13/1976	Arakawa et al.	
		US-6,057,262	05/02/2000	Derbyshire et al.	
		US-5,204,310	04/20/1993	Tolles et al.	
		US-5,670,124	09/23/1997	Itoga et al.	
		US-4,081,370	03/28/1978	Schmitt, Jr. et al.	
		US-5,466,378	11/14/1995	Dussert et al.	
		US-4,822,765	04/18/1989	Nishimura	
		US-4,670,482	06/02/1987	Dilling	
		US-6,565,749	05/20/2003	Hou et al.	
		US-2002/0148785	10/17/2002	Mitchell et al.	
		US-2002/0150686	10/17/2002	Mitchell et al.	
V		US-2002/0074294	06/20/2002	Tremblay et al.	
JK		US-4,978,650	12/18/1990	Coughlin et al.	

Approved for use through 07/31/2008. OMB 0851-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO			•	Complete if Known			
			Application Number	10/705,572			
IN	FORMATIO	N DISC	CLOSUPE	Filing Date	November 11, 2003		
				First Named Inventor	Mitchell, et al.		
5	FATEMENT			Art Unit	1723		
	(Use as many s	sneets as nece	essary)	Examiner Name	Yoon-Young Kim		
Shoot	2	of	3	Attorney Docket Number	9691 DCD/0116 912		

			U. S. PATEN	T DOCUMENTS	
Examiner Cite Initials* No.1		Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant
	<u> </u>	Number-Kind Code ^{2 (F Incom)}			Figures Appear
		US-6,660,168	12/09/2003	Tremblay et al.	
		US-6,565,749	05/20/2003	Hou et al.	
		US-2003/0038084	02/27/2003	Mitchell et al.	
		US-2003/0096703	04/22/2003	Mitchell et al.	
		US-2003/0106851	06/12/2003	Tremblay et al.	
		US-2003/0136728	07/24/2003	Jagtoyen et al.	
		US-2004/0040906	03/04/2004	Jagtoyen et al.	
V		US-2002/0172637	11/21/2002	Chesneau et al.	
JK		US-S/N 09/574,456	05/19/2000	Tremblay et al.	-

Examiner Initials*	Cite No.1	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages	Τ
		Country Code ³ "Number ⁴ "Kind Code ⁵ (if known)	MM-DD-YYYY		Or Relevant Figures Appear	T
JK		RU 2 064 429	07/27/1996	Vasil'evich et al		Т
		RU 2 034 789	05/10/1995	Aleksandrovich		\top
		RU 2 070 438	12/20/1996	Pimenov et al		\top
		EP 1 419 109	12/21/2005	Mitchell et al		T
		WO 94/10091	03/11/1994	Bio Sci Prod Ent.		\top
		WO 99/10076	03/04/1999	Hughes		1
		WO 02/098536	12/12/2002	Mitchell et al.		\top
		WO 02/083266	10/24/2002	Mitchell et al.	-	T
		EP 367389	05/09/1990	Dilling et al.		T
		FR 2331 515	06/10/1977	Seiler et al.		\top
		FR 2743 285	07/11/1997	Moulinex		T
		GB 1,163,426	09/04/1969	Kata Mfg. and Filtering		\top
		JP 2000281445	10/10/2000	Tokio et al.		T
		JP 05049921	03/02/1993	Tokai Carbon KK		Т
		SU 1717538	03/07/1992	Pokonova et al.		T
		DE 93 12 279	10/14/1993	ETC Engineering		1
		WO 02/100509	12/19/2002	Cannon et al.		丅
		WO 02/068324	09/06/2002	Cannon et al.		Τ
V		WO 03/068686	08/21/2003	Mitchell et al.		Т
JK		EP 0 490 317	06/17/1992	Abe et al.		T
Examiner Signature		/John Kim/		Date Considered	08/24/2006	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 'Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.usnfo.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CEP 1.97 and 1.98. The information is required to obtain as station at hanging which is to file (and by the

Traisation is anacried.
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08B (07-05)

Approved for use through 07/31/2006. OMB 0851-0031 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449/PTO				e required to respond to a collection of information unless it contains a valid OMB control number. Complete if Known			
				Application Number	10/705,572		
INFO	ORMATIO	N DIS	CLOSURE	Filing Date	November 11, 2003		
STA	TEMENT	BY A	PPLICANT	First Named Inventor	Mitchell et al.		
	(Use as many st	hoote se m	nance and	Art Unit	1723		
	(Use as many si	10019 83 11	ecessary,	Examiner Name	Yoon Young Kim	•	
Sheet	. 3	of	3	Attorney Docket Number	8681 RCR/9116.813		

		_
	NON PATENT LITERATURE DOCUMENTS	
Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
	DIMITRIS IOANNIS COLLIAS, Declaration under 37 CFR §1.132, 04/01/2004.	
	NEWCOMBE, G., ET AL., "Granular activated Carbon: importance of surface properties in the adsorption of naturally occurring organics", Colloids and Surfaces A: Physiochemical and Engineering Aspects, 1993, 65-71, Vol. 78.	
	GREGG, S.J., ET AL., "Mesoporous solids: the Type IV isotherm", Adsorption, Surface Area and Porosity, 1982, 137-143, 2nd Edition, Academic Press, Inc.	
	REPORT OF TASK FORCE, "Guide Standard and Protocol for Testing Microbiological Water Purifiers", <u>United States Environmental Protection Agency</u> , (submitted April, 1986), revised April, 1987, 1-39.	
	WESTVACO PRODUCTS ON-LINE, "Wood-based Activated Carbons", (2 pgs), downloaded 7/01.	•
	ABOTSI, GODRIED, "Interfacial Properties of Coal: A Guide to Catalyst Loading and Dispersion for Coal Conversion", Energia, Vol. 7, No. 5, 3-5, (1996)	
	MORENO-CASTILLA, C., ET AL., "The Creation of Acid Carbon Surfaces by Treatment with (NH ₄) ₂ S ₂ O ₈ ", <u>Carbon</u> , Vol. 35, No. 10-11, 1619-1626 (1997).	-
	FRANZ, M., ET AL., "Effect of Chemical Surface Heterogeneity on the Adsorption Mechanism of Dissolved Aromatics on Activated Carbon", Carbon, Vol. 28, No. 13, 1807-1819, (2000).	
	BABIC, B.M., ET AL., "Point of Zero Charge and Intrinsic Equilibrium Constants of Activated Carbon Cloth", Carbon, Vol. 37, No. 3, 477-481, (February 22, 1999).	
	MENENDEZ, J.A., ET AL., "On the Difference Between the Isoelectric Point and the Point of Zero Charge of Carbons", <u>Carbon</u> , Vol. 33, No. 11, 1655-1657, (1995).	
		Cite No. Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. DIMITRIS IOANNIS COLLIAS, Declaration under 37 CFR §1.132, 04/01/2004. NEWCOMBE, G., ET AL., "Granular activated Carbon: importance of surface properties in the adsorption of naturally occurring organics", Colloids and Surfaces A: Physiochemical and Engineering Aspects, 1993, 65-71, Vol. 78. GREGG, S.J., ET AL., "Mesoporous solids: the Type IV isotherm", Adsorption, Surface Area and Porosity, 1982, 137-143, 2nd Edition, Academic Press, Inc. REPORT OF TASK FORCE, "Guide Standard and Protocol for Testing Microbiological Water Purifiers", United States Environmental Protection Agency, (submitted April, 1986), revised April, 1987, 1-39. WESTVACO PRODUCTS ON-LINE, "Wood-based Activated Carbons", (2 pgs), downloaded 7/01. ABOTSI, GODRIED, "Interfacial Properties of Coal: A Guide to Catalyst Loading and Dispersion for Coal Conversion", Energia, Vol. 7, No. 5, 3-5, (1996) MORENO-CASTILLA, C., ET AL., "The Creation of Acid Carbon Surfaces by Treatment with (NH4)2S2O8", Carbon, Vol. 35, No. 10-11, 1619-1626 (1997). FRANZ, M., ET AL., "Effect of Chemical Surface Heterogeneity on the Adsorption Mechanism of Dissolved Aromatics on Activated Carbon", Carbon, Vol. 28, No. 13, 1807-1819, (2000). BABIC, B.M., ET AL., "Point of Zero Charge and Intrinsic Equilibrium Constants of Activated Carbon Cloth", Carbon, Vol. 37, No. 3, 477-481, (February 22, 1999). MENENDEZ, J.A., ET AL., "On the Difference Between the Isoelectric Point and the

$\overline{}$			
I Examir	r 1	Date	
	/Tohn Fim/		08/24/2006
Signati	e / COIM KIM/	Considered	00/24/2000

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burner, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: